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PHANTOM TUMOUR OF LUNG IN AN ELDERLY PATIENT: A CLINICAL CHALLENGE

Cardiology

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ABSTRACT

Phantom tumour also called a vanishing tumour is a rare radiological diagnosis, found in an occasional patient of congestive heart failure. This round or oval image in the lower zone of a chest Xray film often gets an array of complicated investigations, in order to rule out tuberculosis or lung tumours. We report a case of a heavy smoker patient with, cough and persistent dyspnoea. He responded dramatically to oral diuretics, and the opacity on the skiagram too disappeared after two weeks of treatment.

KEYWORDS

Phantom tumour, Congestive heart failure, Pleural effusion, Coin shadow.

INTRODUCTION

Phantom tumours, also known as pseudo tumors or vanishing tumours present a fascinating, yet a perplexing phenomenon within the realm of radiological diagnostics. Unlike traditional tumours that are characterized by abnormal tissue growth with abnormal cell division, phantom tumors mimic the clinical and radiological features of real tumors. It is a localized transudative interlobar pleural fluid collection in congestive heart failure. The name originates from its frequent resemblance to a tumor on the chest Xray, and from its tendency to vanish after appropriate management of heart failure, especially after a good course of potent diuretics.

The Case

Presentation:

An 85-year-old man presented with shortness of breath NYHA Class 3, dry cough, fatigue of two weeks duration. He had developed low grade fever with body ache since three days. He was advised to add paracetamol tab, and antitussive cough syrup to his treatment schedule. He was already on cilnidipine 10 mg daily for hypertension.

On Clinical Examination:

He had bilateral pedal pitting oedema. No cyanosis. Pallor was present. Jugular venous pulse was raised. Respiratory rate 24 breaths per minute. Pulse 112 beats per minute, sPO2 86% on room air, arterial blood pressure SBP 110 mm / DBP 74 mm of mercury. His BMI was 19.2 kg/m^2. On auscultation of the chest, crackles were present at bases of the lungs. Occasional wheezes were present. Abdomen was soft with just palpable liver, that was smooth and nontender. CVS: HR 112 beats/ min, mid systolic murmur.

Lab Investigations:

Hb: 10.2 g/ dl, TLC 10,320/ cmm, DLC: P54 L40 M1 E4B 1
eGFR 74
Uric Acid 5.2
NT pro BNP 842 pg/ml
Serum electrolytes: Na-138mmol/L, K-4.6mmol/L, Ca-9.1mg/dl Cl-101.2mmol/L
AST-56U/L, ALT-72U/L, S bil (Total) - 1.4mg/dL, GGT-47IU/L
S proteins-6.2g/L, S albumin-3.2g/dL, S globulin32g/L,

Urinalysis: Straw coloured, pH-7.2, no proteins / sugar / cast / crystals.

Chest Xray P A View: Right lower Zone 3 cm diameter solitary opaque shadow with well circumscribed smooth margins, away from pleura, but near the diaphragm (Fig. 1). It showed cardiomegaly. Echocardiogram obtained on admission demonstrated concentric left ventricular hypertrophy, impaired left ventricular systolic function, mitral valve prolapse, with left ventricular ejection fraction (LVEF) of 42%.

Ultrasonography of abdomen: Hepatomegaly with minimal, non-tappable ascites.

Treatment Given:

Tab Torsemide 10 mg: One tab once daily in morning and one tab in the afternoon.

Tab Spironolactone 50 mg (extended release form): One tab daily in the morning.

Salt and water restriction was advised, along with the standard protocols of the management of congestive heart failure.

Review:

Patient came back after two weeks of treatment. His dyspnoea was better; NYHA class 2. Pedal oedema was much less. The chest Xray P A View done showed complete resolution of the opacity of RLZ (Fig. 2).

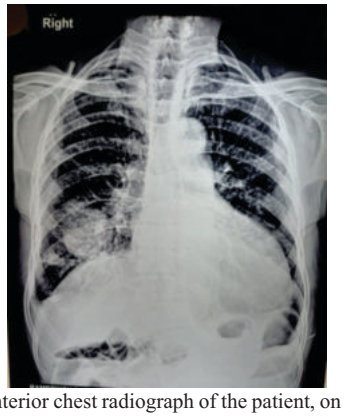

Fig 1: Posteroanterior chest radiograph of the patient, on presentation in OPD, with a phantom tumour as a well- delineated, drop- like density in right lung, near cardio phrenic angle.

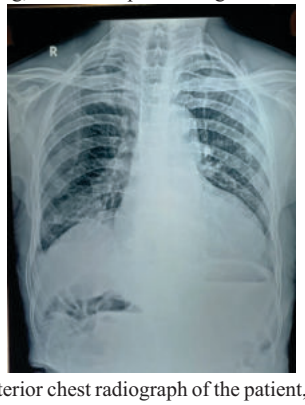

Fig 2: Posteroanterior chest radiograph of the patient, after 2 weeks of therapy, with complete resolution of the phantom tumour due to congestive heart failure.

DISCUSSION

Phantom tumors can manifest in various forms, often causing confusion among patients as well as among the clinicians. These are also called vanishing tumour or pseudotumour. False alarm can be triggered by a multitude of factors, ranging from inflammation and infection to benign growths, metastasis, pulmonary fibrosis and other anatomical variations.

These opacities [1] are mostly seen in the geriatric population [2] who have higher incidence of congestive heart failure. According to previous reports, it is not restricted to severe failure [3] and should be considered in all patients presenting with congestive heart failure. The most commonly described appearance is a well-defined homogeneous opaque shadow, occupying the transverse fissure or sometimes the oblique interlobar fissures. As also described in the present case, fluid loculation has been in the right side of chest in the majority of previous reports [4]. . In patients with congestive heart failure, greater hydrostatic pressure in the right side of the lung interferes with venous and lymphatic drainage and results in right side dominance of effusion [5]. Unlike actual tumors, phantom tumors do not exhibit the uncontrolled cell division that defines cancerous growth. Instead, they are exaggeration of a physiological processes, giving rise to symptoms and imaging findings which might the clinical features of lung tumors.

Pulmonary infarction, pneumonia, tuberculosis, lobar collapse, malignant mass or metastatic neoplasm, abscess, emphysema, cyst and arteriovenous aneurysm are the common differential diagnosis for this radiographic finding. Such case reports can make the diagnosis easier for internists and prevent invasive, unnecessary, and costly interventions.

Causes And Contributors

1.Inflammation and Infection: One common cause of phantom tumors is inflammation or infection in a specific region of the body. Inflammatory responses can lead to the accumulation of fluid and cellular debris, creating mass-like structures on imaging studies.
2.Benign Lesions: Certain benign growths, such as cysts or lipomas, can be mistaken for tumors due to their appearance on imaging tests. These non-cancerous entities often share characteristics with malignant tumors, leading to misinterpretation.
3.Anatomical Variations: Unusual anatomical structures or variations in organ shape and size may mimic tumor-like features. These variations can complicate the diagnostic process, requiring a keen eye and advanced imaging techniques to differentiate them from actual tumors.
4.Functional Disorders: Some phantom tumors are associated with functional disorders rather than structural abnormalities. Conditions like functional neurological disorders or gastrointestinal motility disorders can present with symptoms that imitate those of true tumors.

CONCLUSION

Phantom tumors represent a captivating aspect of medical science, showcasing the intricate interplay between physiological processes and diagnostic challenges. As medical knowledge and technology continue to advance, refining our understanding of pseudotumors becomes paramount. By unravelling the mysteries surrounding these phantom entities, healthcare professionals can enhance their diagnostic accuracy, alleviate patient anxiety, and ensure that appropriate interventions are employed based on the true nature of the condition.

Complete resolution of the Phantom tumor can be obtained by use of diuretic therapy and dietary modifications. Dietary modifications include fluid and salt restriction.

Informed Consent:

The informed consent has been obtained from the patient to present this information and the picture.

Conflict Of Interests:

The authors declare that there is no conflict of interest regarding the publication of this manuscript.

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